

SPACE NEWS

Top 50

Space Industry Manufacturing and Services

About the List

The annual *Space News* survey of the world's Top 50 space manufacturing and service companies is as much art as it is science. Most of the companies on the list are large conglomerates with businesses and revenue not related to space. For every company like Orbital Sciences, which categorizes all of its revenue as space related, there are companies like Lockheed Martin and Boeing for whom space is only a percentage of their revenue, which for all firms on the list is stated in millions of U.S. dollars.

The list is based primarily on surveys filled out by the companies or publicly available financial data filed with regulatory agencies like the U.S. Securities and Exchange Commission.

Our definition of the space business is broad. We include missile defense work, software, component manufacturing for satellites and launch vehicles, engineering services and solutions, program management and satellite ground equipment.

Despite that broad definition there are companies we do not include on the list, such as DirecTV, XM Satellite Radio and Sirius Satellite Radio, who sell directly to consumers and compete with other entertainment companies like broadcast networks, radio stations and cable companies. Many of those companies view themselves as entertainment rather than space companies and their revenue is derived mostly from subscriptions and advertising.

Another category of satellite operator, the traditional fixed satellite services operators like SES and Intelsat, are not included because we publish a separate survey of that business in June.

EchoStar Corp., which was created in January when it was spun off from Dish Network, another direct-to-home satellite television service, is in a variety of businesses whose finances are reported in a way that makes it difficult to pin down a number for the purposes of this list. EchoStar made the list in previous years because it also is a manufacturer of satellite-television set top boxes. It brought in \$249.85 million in that category in 2007, but that figure does not include some

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Rank	Company	2007 Space Sales	2006 Space Sales	Total 2007 Sales	Total 2006 Sales	Comments
1	Lockheed Martin Corp.	\$10,203	\$9,809	\$41,900	\$39,620	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; launch services; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
2	Boeing Co.	\$7,530	\$8,150	\$66,387	\$61,530	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; launch services; ground systems; engineering systems and/or software; and missile defense.
3	Northrop Grumman Corp.	\$5,231	\$4,953	\$32,018	\$30,113	Satellite manufacturing; satellite and rocket components; launch services; ground systems; engineering services and/or software; missile defense; and satellite communications services.
4	EADS Astrium	\$5,210	\$4,220	\$5,210	\$4,220	EADS Astrium has three divisions: Astrium Space Transportation for space station and related hardware and Ariane 5 manufacturing; Astrium Satellites, a satellite prime contractor; and Astrium Services for telecommunications and Earth observation services.
5	Raytheon Co.	\$4,506	\$4,190	\$21,301	\$20,291	Satellite and rocket components; launch services; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
6	Garmin Ltd.	\$3,180	\$1,774	\$3,180	\$1,774	GPS hardware and software.
7	Thales Alenia Space	\$2,600	\$2,180	\$2,600	\$2,180	Satellite and space hardware manufacturing.
8	United Space Alliance	\$1,860	\$1,921	\$1,860	\$1,921	Launch services; ground systems; and engineering services and/or software.
9	Alliant Techsystems Inc. (ATK)	\$1,678	\$1,385	\$4,172	\$3,565	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; launch services; engineering services and/or software; and missile defense. ATK acquired Swales Aerospace in June 2007.
10	L-3 Communications	\$1,400	\$1,300	\$13,961	\$12,477	Launch vehicle manufacturing; launch services; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
11	Arianespace	\$1,354	\$1,448	\$1,354	\$1,448	Launch services.
12	Computer Sciences Corp.	\$1,350	\$1,250	\$16,500	\$14,700	Ground systems; engineering services and/or software; missile defense; and satellite communications services.
13	Science Applications International Corp. (SAIC)	\$1,229	\$1,136	\$8,900	\$8,300	Satellite and rocket components; engineering services and/or software; and imagery sales and services.
14	Trimble Navigation Ltd.	\$1,220	\$940	\$1,220	\$940	GPS hardware and software.
15	Orbital Sciences Corp.	\$1,084	\$803	\$1,084	\$803	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; launch services; ground systems; engineering services and/or software; and missile defense.
16	United Technologies Corp.	\$1,051	\$1,060	\$54,800	\$47,800	Satellite and rocket components.
17	General Dynamics Corp.	\$1,007	\$953	\$27,200	\$24,063	Satellite manufacturing; satellite and rocket components; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communication services.
18	Honeywell International Inc.	\$1,000	\$1,000	\$34,600	\$31,600	Satellite and rocket components; ground systems; engineering services and/or software; and missile defense.
18	ITT Corp.	\$1,000	\$1,000	\$9,003	\$7,808	Launch services; satellite components; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
19	Hughes Communications Inc.	\$957	\$839	\$971	\$859	Ground systems; engineering services and/or software; and satellite communication services.
20	Loral Space & Communications Inc.	\$883	\$797	\$883	\$797	Satellite manufacturing and satellite communications services.
21	Harris Corp.	\$880	\$525	\$5,000	\$4,200	Satellite and rocket components; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
22	Ball Aerospace & Technologies Corp.	\$721	\$604	\$788	\$672	Satellite manufacturing; satellite and rocket components; launch services; ground systems; engineering services and/or software; missile defense; and imagery sales and services.
23	BAE Systems	\$612	\$573	\$14,900	\$14,000	Satellite and rocket components; ground systems; engineering services and/or software; and missile defense.
24	GenCorp Inc. (Aerojet)	\$611	\$501	\$739	\$614	Satellite and rocket components; launch services; and missile defense. Aerojet is a division of GenCorp. The company's fiscal year runs Dec. 1 to Nov. 30. Figures are a <i>Space News</i> estimate.
25	Vizada Group	\$600		\$600		Satellite communications services. Apax Partners acquired Telenor Satellite Services and France Telecom Mobile Satellite Communications in 2007. The two companies were combined to form Vizada Group.

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hardware and services sales to Dish. EchoStar also is now a fledgling operator in the fixed satellite services business and will be included in that list in 2009.

There also are a number of companies in the space business that are privately held and decline to make their annual revenue public. Examples include Magellan, a manufacturer of GPS equipment, and International Launch Services (ILS), a company now owned primarily by Russian corporate investors.

Magellan, formerly Thales Navigation, is now owned by Shah Capital Partners. The company declined to fill out the survey and does not disclose its revenue.

ILS also declined to fill out the survey but has made some public disclosure of its revenue. According to a press release

ILS issued Jan. 8, the company had a backlog at that time of 22 orders, which it said were worth a total of "nearly \$2 billion." That would average out to about \$91 million per launch. The company performed four launches in 2007, but determining annual revenue is complicated because the company receives progress payments on launches it is working toward and money when contracts are signed.

Another launch services company, China Great Wall Industry Corp., is a government-owned organization that does not disclose its revenue but would most likely be on the list if it did.

United Launch Alliance (ULA), a joint venture of Lockheed Martin and Boeing declined to make its revenue public and that revenue was not reported in the surveys filled out by Lockheed Martin

and Boeing. ULA manufactures and launches the Atlas 5, Delta 4 and Delta 2 rockets for U.S. government customers. Boeing did include in the numbers it provided us a small amount of revenue from commercial sales of the Delta 2. In its survey, Boeing attributed the drop in its space-related revenue from 2006 to 2007 to the formation of ULA and the loss of the revenue from Delta business with the U.S. government that the company previously counted.

By contrast United Space Alliance (USA), a Lockheed Martin-Boeing joint venture that provides shuttle- and space station-related services to NASA, participates in the survey and routinely makes the Top 10 every year.

One publicly traded company that might have made this year's list had it clearly identified space-related revenue

in its annual report is EMS Technologies, which builds satellite antennas and other components. EMS, which did not respond to the survey by press time, reported \$89.9 million in sales for its Satcom division last year, and \$59 million for its Defense and Space group. The combined figure would have put EMS on list, but not all of the Defense and Space group's business is space related, and without the company's breakout it was not possible to determine the percentage that is.

Finally, as in recent years, the European revenue numbers are inflated by the decline of the U.S. dollar versus the euro, a trend that became more pronounced in 2007. As of Dec. 31, 2006, 1 euro was worth \$1.32; one year later, it was worth \$1.47.

— Lon Rains, Editor

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26	Stratos Global Corp.	\$594	\$538	\$594	\$538	Satellite communications services. CIP Canada Investment Inc. acquired beneficial ownership of all the issued and outstanding common shares of Stratos on Dec. 11, 2007.
27	Telespazio	\$581	\$425	\$581	\$425	Rome-based Telespazio is 67 percent owned by Finmeccanica and 33 percent by Thales. The company specializes in satellite ground communications services and Earth observation.
28	Inmarsat plc	\$558	\$500	\$558	\$500	Satellite communications services.
29	Jacobs Technology Inc.	\$550	\$380	\$1,406	\$1,020	Launch services; ground systems; engineering services and/or software; missile defense; and satellite communications services.
30	Mitsubishi Electric Corp.	\$499	\$561	\$36,080	\$34,352	Satellite manufacturing; satellite and rocket components; and ground systems.
31	Mitsubishi Heavy Industries Ltd.	\$446	\$441	\$28,535	\$27,336	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; launch services; ground systems; and engineering services and/or software.
32	Avio Group	\$384	\$294	\$2,269	\$1,900	The company's Avio Space division builds components for the Ariane 5 rocket, and has a major responsibility for the Vega small satellite launcher in development and scheduled to begin flying mid-2009.
33	MacDonald, Dettwiler and Associates	\$366	\$374	\$1,228	\$1,073	Satellite manufacturing; satellite and rocket components; ground systems; engineering services and/or software; imagery sales and services; satellite communications services. MDA acquired Vexcel Canada Inc. and Alliance Spacesystems LLC in 2007.
34	OHB Technology AG	\$329	\$215	\$329	\$215	OHB Technology of Bremen, Germany, makes Ariane 5 rocket hardware as well as satellites mainly for government customers.
35	ViaSat Inc.	\$328	\$322	\$575	\$517	Ground systems; engineering services and/or software; and satellite communications services. Viasat acquired JAST Antenna Systems, which develops mobile satellite antennas, in 2007.
36	Safran (Snecma)	\$319	\$669	\$17,679	\$14,957	French aviation and space motor builder Safran's Snecma division is responsible for building Ariane rocket motors and also builds satellite propulsion units and satellite subsystems.
37	Gilat Satellite Networks Inc.	\$283	\$249	\$283	\$249	Gilat Satellite Networks provides hardware and services for VSAT satellite networks for businesses and governments, including services to link rural communities to the telecom grid.
38	Iridium	\$260	\$212	\$260	\$212	Satellite communications services.
39	CapRock Communications	\$210	\$200	\$210	\$200	Manufacturing; program management; engineering services and solutions; missile defense; software; and ground equipment. CapRock acquired Arrowhead Global Solutions in 2007.
40	GeoEye	\$184	\$151	\$184	\$151	Engineering services and/or software; and imagery sales and services. GeoEye acquired M.J. Harden, a provider of digital aerial imagery and geospatial information solutions, in March 2007; SPADAC, which delivers geointelligence and predictive analysis and applied research and development, in June 2007; and East-Dawn Group, a reseller of satellite imagery in China, in August 2007.
41	Israel Aerospace Industries Ltd.	\$182	\$176	\$3,316	\$2,814	Satellite manufacturing; launch vehicle manufacturing; satellite and rocket components; and ground systems.
42	Com Dev International Ltd.	\$168	\$157	\$168	\$157	Satellite and rocket components.
43	DigitalGlobe Inc.	\$152	\$107	\$152	\$107	Imagery sales and services. DigitalGlobe acquired GlobeExplorer, a geographic data integration and publishing company, in January 2007.
44	ND Satcom AG	\$150	\$100	\$150	\$100	Ground systems; engineering services and/or software; and satellite communications services.
45	Serco	\$148	\$140	\$5,592	\$4,993	Ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.
46	Artel Inc.	\$142	\$118	\$181	\$154	Satellite communications services.
46	Radyne Corp.	\$142	\$134	\$142	\$134	Satellite manufacturing; satellite components; and ground systems.
47	Spot Image Corp.	\$139	\$96	\$139	\$96	Imagery sales and services.
48	Integral Systems Inc.	\$129	\$117	\$129	\$117	Ground systems; and engineering services and/or software.
49	Globecomm Systems Inc.	\$127	\$110	\$151	\$126	Ground systems; and imagery sales and services. Globecomm acquired Globalsat in 2007.
50	Goodrich Corp.	\$121	\$122	\$6,400	\$5,700	Satellite and rocket components; ground systems; engineering services and/or software; missile defense; imagery sales and services; and satellite communications services.